

**Alternative Energy Committee  
April 15, 2013**

Members present: Larry Bean, Chair; Burke Henry, Vice Chair; Carl Frederickson and Tom Banner

Members absent:

Also present: Pete Clark, Town Administrator

Public present: David Thomas, Glenn Carlson (9:55am)

**1. Call to order.**

The Alternative Energy Committee meeting called to order by Chair Larry Bean on Monday, April 15, 2013 at 9:33 a.m. at the Town Hall. A quorum of the committee is present as reflected in the members listed above.

This is the first meeting of the AEC since the passing of Alan Fischlowitz and the committee would like the minutes to reflect our respect for Alan's commitment to our mission and the fact that we miss him.

**2. Review and approval of the following AEC minutes:**

**a. November 22, 2010**

Motion by B. Henry to approve the November 22, 2010 Alternative Energy Committee minutes as presented, second, C. Frederickson. All in favor, all aye, no opposed, motion carried.

**3. Status of Bayfield County program at Mt Ashwabay**

L. Bean has a copy of the mission statement and committee member qualifications. He said the committee began by conducting wind energy assessments at four different residential sites on the Island. The purpose was to equip Island residents with information to adopt wind energy on their own. The four assessments are in the Town Hall.

After the energy assessments the committee looked at wind to see if wind energy might meet the entire Island's electrical needs. The committee found funding to put up a meteorological tower at Big Bay State Park where data was collected for two years. The data showed that the wind resource on the Island is marginal which could be cost effective under certain scenarios, but because we are on an island there would be additional costs.

The north end of the island was considered as a location for an installation but there were the following issues and concerns: getting the turbines to the north end presented a major challenge; the proximity of the turbines to residential sites and the sites that would be developed in the future; and of major concern, noise. There was a requirement to spend \$6-8,000 to find out if noise was an issue along with other pre-development costs. The committee decided not to spend the money.

The committee had been a recipient of grant funding that was not spent and so members of the committee contacted Bayfield County who had always expressed an interest in putting in a turbine on Mt Ashwabay for the County's needs. The unspent funds from Windustry, a USDA Rural Development Grant were transferred to Bayfield County where wind measurements have been conducted for four years. L. Bean invited the county administrator, Mark Abeles-Allison, Mark, the engineer and Dan Turner, Windustry consultant to this meeting but they had a meeting at nine today with Lisa Daniels, the director of Windustry. Dan sent an update to say that they

have determined there is a viable wind resource on the very top of Mt. Ashwabay. The turbine of choice would be a 1.7 megawatt GE turbine.

There will have to be a Power Purchase agreement with the EPA and according to Dan, Mark approached Xcel Energy and Xcel said they were not interested. L. Bean said that threw up a flag because federal regulations require utilities to be interested, even if they buy wholesale. There is also a State law, unless the law has been changed, that requires utilities to buy the power and pay retail which is not the case in many states.

Bob Owen, Consulting Engineer and Meteorologist asked what Madeline Island's reaction would be to placing a wind turbine in the water in a shoal off of Grants Point as there is an interest in fresh water offshore wind development. L. Bean said he thought a turbine there would bring all the issues we had with some people about putting a turbine on land: visual impact and too close to residences. The Tribes also have to approve of anything in the view shed. Short discussion of the type of turbine and production projections. Larry said the funding with Windustry will last 2-3 more months. We will remain in contact.

#### **4. Solar power program for:**

##### **a. La Pointe Town-owned buildings & other possible uses**

##### **b. Private residences & other possible uses**

L. Bean put a letter in the Gazette asking people if they were interested in solar development for their residence. Half a dozen people responded. The cost of solar energy has gone down 40% in the last two years and there is a tax credit of 30% with no cap until 2016 so now is the time to install solar.

L. Bean looked at the landfill and thought that the new racking system that is ballasted and does not penetrate the ground could be a possibility in that area and there is already a three phase line. A precedent has been set as several landfills around the country have solar installations on them. Will need to negotiate with the DNR. An alternative site would be the airport.

Glenn Carlson talked to Lauren Azur, former WI chair of the Public Utility Commission who is now the policy advisor to the Secretary of Energy about the installation at the landfill. Lauren said the Dept of Defense/Navy might be interested in funding a demonstration project on Madeline Island for a micro-grid.

L. Bean said the Town would need a 170 kW installation and would cost between \$300,000 and \$500,000. The Town would not get a tax credit but there are ways to structure ownership to get the tax credit. The town's annual electric bill is \$25,000 so we are looking at a 15 year payback for the town, at a minimum.

Discussion of a micro grid. L. Bean said the most logical, cost effective best way to install solar is to be connected to the Xcel grid so when the grid goes down the system goes down. What the micro grid does is allow the system to break free from the grid and continue to produce power for the customer. In order to do this you need a battery bank which adds extra cost and maintenance, which is substantial. The battery bank is also there to level off the peaks. L. Bean asked Pete Clark, Town Administrator if he could get the following:

1. A list of what absolutely needs to be powered.
2. See if we could get a couple of graphs from Xcel on the Town's electrical use. L. Bean said he would be glad to contact Xcel.

The first step is to make sure all electrical items are as energy efficient as possible because it is cheaper to save energy than to produce energy. In that regard, the committee wanted to put in LED lights downtown and on the dock with a timer when the ferry did not run.

Glenn Carlson is now present (9:55pm).

L. Bean knows a specialist in micro grids and an advisor to Xcel Energy who recommends not going with a micro grid for residential use; go for a straight hookup into Excel. But if the Dept of Defense will pay for this, then maybe should consider a micro grid. Need to find out if there is funding for a demonstration project; we need data from the Town, which Glenn has, and we need to get clearance from the DNR. L. Bean needs to talk to Keith Sowl, Town Foreman and Ted Pallas at MRF because they might have different DNR contacts. Also need to talk to Xcel Energy. L. Bean said he met someone who works with the WI Energy Center in Madison and has offered to help us with some design work.

L. Bean said those who contacted him in regards to his Gazette article he has told to contact Xcel Energy and himself with their load numbers. Everyone, except Pastor Marina who requested information for the Church, has done this. The next step is a site assessment with a certified solar assessor.

Kurt Nelson in Ashland, John Johanning in Washburn and Chris LaForge, south of Port Wing are all site assessors and they have agreed to talk to us. Cost is about \$250/site. John Johanning thought he could do all six sites and the Town in one day for a cost of \$500.

There is \$836.00 in the AEC budget.

B. Henry said cost is \$5-\$6/watt to install a residential system and for an aggregation of projects the cost could be under \$4/watt. People who responded to the article in the Gazette have an annual consumption of 6-7 KW to meet their annual needs which is anywhere from \$6,000 to \$10,000 KW/year. What is the efficiency of these systems? If solar panels are on a south facing roof and covered with 6-12" of snow what happens? L. Bean said it would go to zero until the snow clears but there are racking systems that do not go on a roof such as a pole system that would shed snow. There would be 6 stacked collectors that go up a pole. There are also frameless collectors where snow would fall off. You clean them with a hose or squeegee.

Question about how quick the technology will be outdated and how much is the industry dependent on government support? To be noted is the tax credit can be received only for an installation on a primary residence.

The main interest in microgrids is for defense and solar gardens. When the grid goes down power goes out but if you run on a micro grid you would have power to run some, but not all, of your electrical items. Utilities have not embraced micro grids because they do not know who is maintaining the grid and to what standards. Safety is also an issue. When the grid goes down, utilities are required to keep power on and are fined when there is no power.

B. Henry said if an annual cost to Xcel is \$1,000/year he does not see how it would be rational to put in solar. If the power goes out he could use a generator for a lot less money. L. Bean said the solar installation on his house in AZ paid for itself in five years and now he has free electricity, including use of his electric car. He said you need to consider that we are supporting things that do environmental damage; we are supporting people that we do not really care for and

who do not care for us. How much do you spend supporting those industries, businesses and people vs what you spend on the alternate?

B. Henry said if you put in a power system and dip into the bank for 25 years to pay for the system but what if you live for half that time? He finds this hard to sell at this latitude and climate. L. Bean said according to research we get 2/3rds of what we get in Arizona. And in terms of acquisition the most cost effective way is to put the capital up and buy it; you can get a home equity loan and buy it or you could enter into a lease/purchase agreement. B. Henry said one requirement is excess cash and you cannot go to a full time year around person on this island who has excess cash so it would be very difficult to sell this system. He said he would be happy to join a group that would give a small amount of money for site studies. And there is money in the AEC budget.

Glenn said because the tax credits could go away in 2-3 years you need to look at this now and get some more data. L. Bean said there are two paths, one for the town and one for residences.

L. Bean offers to write up some specifications for that work and run it by the committee. Based on approval by the committee we could enter into an agreement with a site assessor.

Motion by B. Henry to ask L. Bean to put together specifications for a proposal for a solar site assessment on the Island for both residential and the town. Discussion. Question that if this will be paid for with the Town's money, will all the information be available to the public? Most definitely and presentations will be held on a regular basis. Second, T. Banner. All in favor, all aye, mc

## **5. Possible uses of solar power to support agriculture**

L. Bean has been involved in Slow Food and sent a number of things to Nick Nelson. He attended a Local Food System meeting looking at the cost of energy to deliver food to our plates from an average of 1500 miles away.

D. Thomas said that all through the Midwest there is solar put on farms to power barn usage and some local farmers are using electric vehicles. Farmers are more independent and like to be off the grid.

## **6. New program possibilities & funding**

L. Bean would like to take a trip to Madison to talk to legislators, the DNR, Xcel Energy, the State Energy office and stop at Focus on Energy and see what funding is out there for us. The WI Energy Center offered to help with design. Need to have the site assessments completed before meeting with people.

## **7. New members of AEC**

The passing of Alan Fischlowitz has left one vacancy. Glenn Carlson has expressed interest. Motion by B. Henry to appoint Glenn Carlson to the Alternative Energy Committee, second, C. Frederickson. All in favor, all aye, motion carried.

## **8. Schedule next meeting.**

Next meeting is Monday, April 29, 2013 at 9:30 am at Town Hall. Larry will invite site assessors to meet with the committee.

B. Henry said the Community and Public Works Planning Committee (CAPP) have invited him to give a short report on the alternative energy committee tonight.

Pete Clark asked about the cost of LED street lights. Larry said Keith Sowl has the bid costs as well as the price of the harbor lights.

**9. Adjourn.**

Motion by B. Henry to adjourn, second, C. Frederickson. All in favor, all aye, motion carried.

Meeting adjourned at approximately 10:40pm

Minutes taken from recorder and respectfully submitted by Kathy Erickson, Clerical Assistant  
Minutes approved as presented April 29, 2013